

THE SENTINEL



OFFICIAL SAFETY NEWSLETTER OF CIVIL AIR PATROL

Operation CAPSAFE

MGen Pineda and his National Safety Officer, Col Lyle E. Letteer, Jr., are soliciting ideas from the membership to make Civil Air Patrol even safer.

Operation CAPSAFE was developed to reward members that take the time to submit suggestions that will enhance the safety of CAP activities and operations and ultimately the welfare of fellow volunteers. Suggestions can pertain to either ground or flight safety issues. Don't hesitate to submit a suggestion just because you're new to CAP; sometimes it takes new eyes to see a problem and a better way of doing business.

Each month, the best suggestions in ground and flight safety categories will be rewarded with an **Operation CAPSAFE** promotional item. Winners will receive either a stainless steel insulated travel mug or a mini MAG-LITE. Also, monthly winners are eligible for a drawing that will make one lucky member an owner of a new laptop computer! Start thinking about how we can keep our members safe and send your suggestions to:

CAP National Safety Officer
P.O. Box 1010

Locust Grove, GA 30248-1010

Or send an e-mail to: safety@cap.gov



Carburetor Icing

While carburetor icing can occur almost anytime, there's no time like the present to review this insidious hazard. Carburetor icing is the number-one cause of icing accidents. Close monitoring of engine instruments and quick corrective measures are the keys to coping with this threat.

As air is drawn into the small throat of a carburetor, the venturi effect accelerates the air and cools it. It cools even further when mixed with vaporized fuel. When this moist air reaches the freezing point of 32°F, the ice particles that begin to form deposit themselves on the throttle plate. The carburetor can then become choked by this ice to the point that the engine receives less air than is required for full power. The once explosive air/fuel mixture becomes so rich from excess fuel that the engine ceases to fire. What conditions are conducive for carburetor icing? It's possible for carburetor ice to form even when the skies are clear and the outside air temperature is as high as 90°F, if the relative humidity is 50% or more - especially when operating at reduced power settings. The envelope for the most severe buildups of carburetor ice is between 65 and 100% relative humidity and 25 to 65°F. In other words, carbureted engines are susceptible to icing almost anytime.

Now, let's look at how to detect carburetor icing. On the ground during engine run-up, ice is easy to positively identify and remove. On a Cessna, for example, at 1,700 rpm the carburetor heat control is pulled out fully to the hottest position. Because air entering the carburetor after application of carb heat is warm (from the engine compartment) and less dense, you will notice an rpm decrease of 100 to 300 rpm, and the rpm



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should remain low until the carburetor heat control is pushed all the way back in. However, if the rpm decrease is noted, but slowly begins to increase so that when the carb heat control is pushed back in and the rpm reads more than the original 1,700 rpm, you had carb ice.

There are two opportunities to detect the subtle indication of developing carb ice while airborne. The subtlety is a gradual, small drop in RPM on a fixed-pitch prop aircraft, even though the pilot did not retard the throttle. On a constant-speed prop aircraft, a gradual, small drop in manifold pressure (MP) indicates carb ice while in flight. If detected early and dealt with correctly you can easily prevent an untimely engine stoppage. The bottom line in carb ice prevention is to use carb heat:

- ✓ during the before takeoff check (as required by your aircraft POH), but not during takeoff.
- ✓ when conditions are conducive for icing.
- ✓ when operating at reduced power during descents or on approach.
- ✓ in the full-on position. Don't use partial carb heat settings.



What Costs Society \$44,193 A Minute?

(Answer)... Check your speedometer as you drive home! Exceeding the posted limit or driving too fast for conditions is one of the most prevalent factors contributing to traffic crashes. Speed is a factor in nearly one-third of all fatal crashes.

Speed-related crashes cost society more than \$23 billion a year. Too few drivers view speeding as an immediate risk to their personal safety or the safety of others. Yet, speeding reduces a driver's ability to steer safely around curves or objects in the roadway, and it extends the distance required to stop a vehicle in emergency situations.

Crash severity increases with the speed of the vehicle at impact. Inversely, the effectiveness of restraint devices like air bags and safety belts

and vehicular construction features such as crumple zones and side member beams decline as impact speed increases. The probability of death, disfigurement, or debilitating injury grows with higher speed at impact.

Such consequences double for every 10 mph over 50 mph that a vehicle travels. Many drivers don't consider this. They slow their speed in residential areas, or when the weather turns bad. To them, a few miles an hour over the posted speed limit is an acceptable risk. Their excuse -- other drivers do it. They believe the worst that can happen to them is to receive a speeding ticket. Drivers like this are wrong. Maybe even dead wrong, because driving too fast for conditions or exceeding the posted speed limit can kill you!



Teen Risk - Unintentional Injury and Violence

A recent Youth Risk Behavior Survey showed that there are certain behaviors that are the main contributors to injury and death among teens:

- Behaviors leading to unintentional injuries

- 18.2% had *rarely or never worn seat belts*.
- 85.9% of students who rode bicycles *rarely or never wore a helmet*.
- 30.2% of students had *ridden one or more times with a driver who had been drinking alcohol* in the last 30 days.
- 12.1% of students had *driven a car or other vehicle after drinking alcohol*.
- 44.9% of students *drank alcohol* in the last 30 days.
- 22.4% of students *used marijuana* in the last 30 days.

- Behaviors that contribute to violence

- 17.1% of students had *carried a weapon* in the last 30 days.
- 33% of students had *been in a physical fight* in the last 12 months.
- 8.9% of students had *been hit, slapped or hurt on purpose* by a boyfriend or girlfriend during the last 12 months.
- 9% of students had *been forced to have sexual intercourse* when they didn't want to during the last 12 months.
- 5.4% of students had *missed one or more days of school* during the last 30 days because they didn't feel safe either at school or on the way to or from school.
- 8.5% of students had *attempted suicide* during the last 12 months.